S1000D and Wiring Data
- Successfully in Operation

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CASSIDIAN Manching - COPCI Technical Information

AGENDA

1. **Introduction**
2. **S1000D and Wiring Data**
3. **IETP-X-AT Electric**
4. **Summary**

| **Introduction** | S1000D & Wiring Data | IETP-X-AT Electric | Summary |

Introduction

Paper-based Documentation

- Wiring diagrams

- Loom routings

- Further information in list format

➡️ **Data search is extremely time-consuming**

New generation of aircraft

- Big amount of data

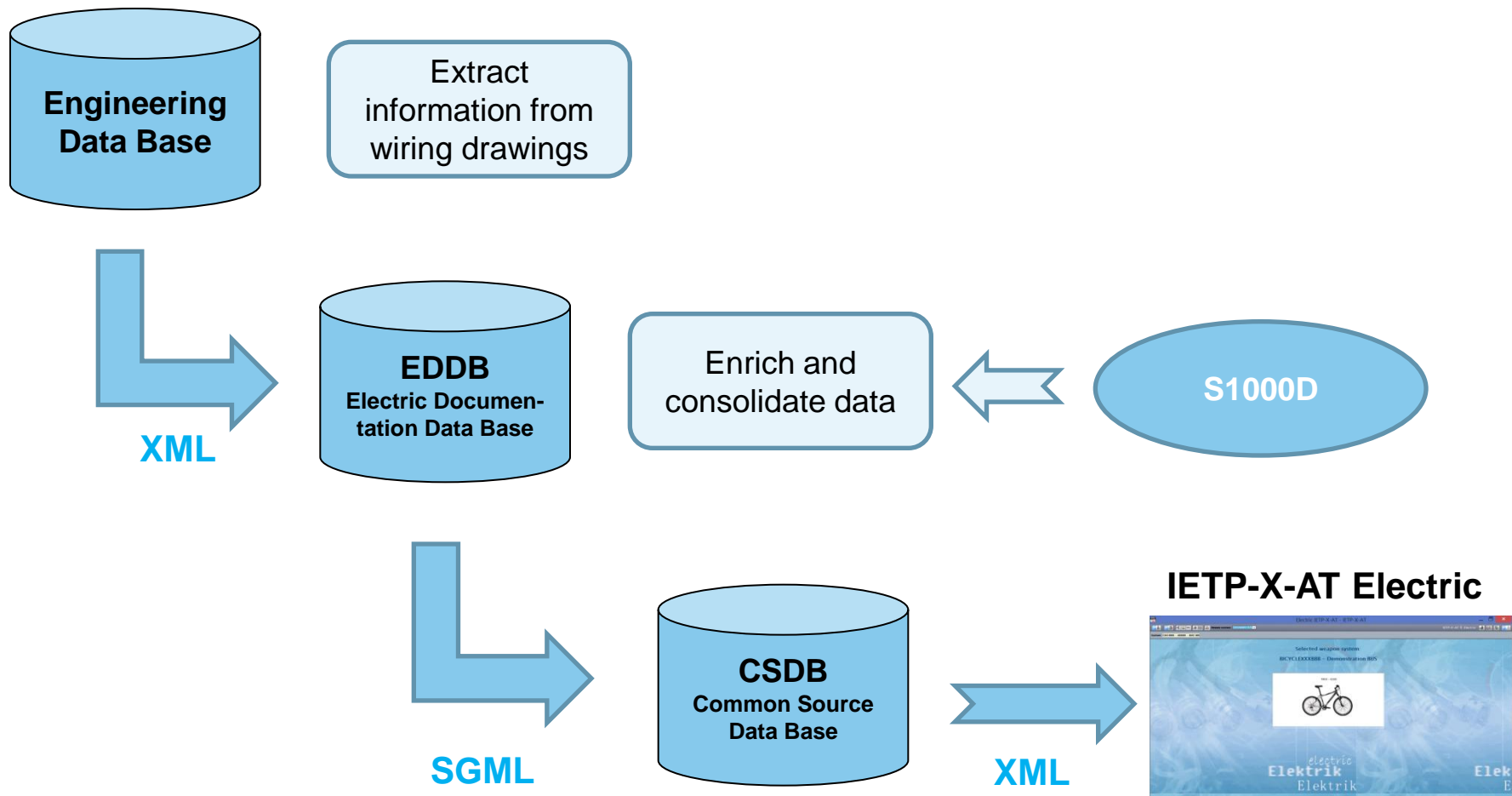- High complexity

➡️ **Increasing Quantity**

Different solution required

- Standardization with S1000D

S1000D

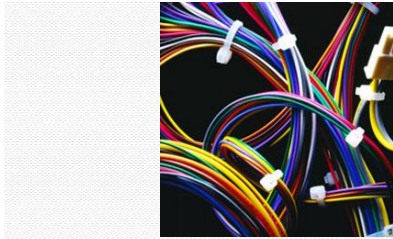➡️ **CASSIDIAN started to investigate further options**

| Introduction | S1000D & Wiring Data | IETP-X-AT Electric | Summary |

The information flow

Engineering Data Base

Extract information from wiring drawings

XML

EDDB
Electric Documen-tation Data Base

Enrich and consolidate data

S1000D

SGML

CSDB
Common Source Data Base

XML

IETP-X-AT Electric

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S1000D and Wiring data
Highlights

|	
Issue 2.0	▪ Introducing new data module types for wiring data ▪ Introducing interactive wire tracing possibility
Issue 2.2	▪ Introducing detailed guidance for using the wiring Schema ▪ Describing electrical states and internal connections made possible ▪ Enhancing the Schema by additional attributes (e.g. <screen>)
Issue 2.3	▪ Optimizing the wiring data structure (e.g. wire connection code) ▪ Changing the data module coding to „91" in the system position
Issue 3.0	▪ Introducing new elements such as element <groupcode> ▪ Redefining existing applicability information elements
Issue 4.0	▪ Renaming elements & attributes for better readability ▪ Restricting the definition of <applic>
Issue 4.1	▪ Introducing new elements to cover wiring data alternates ▪ Replacing / renaming existing elements (<referenceDesignator>)

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Data lists

Harness information

➤ Various search options
  ➤ Harness ID
  ➤ Part number
  ➤ Issue

Equipment information

➤ Various search options
  ➤ Reference Designator
  ➤ Part number
  ➤ Next higher Assembly
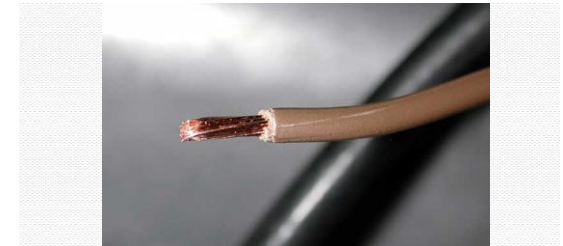
Wire information

➤ Various search options
  ➤ Wire ID
  ➤ Wire type
  ➤ Connected Equipment

Display of information in list format

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Visual display of data lists
Realizing the benefit of the information

Connection plan

➢ **Displaying all connected wires at a Reference Designator according to**
  ➢ Applicability
  ➢ View option

➢ **View options**
  ➢ Standard view
  ➢ Connector sibling view
  ➢ Shield view
  ➢ Twist view
  ➢ Harness sort view
  ➢ Harness view

Connection analysis

➢ **Displaying all connected wires and equipment from a selected starting point / Reference Designator**

➢ **View options**
  ➢ Standard view
  ➢ Functional view
  ➢ Twist view
  ➢ Harness view
  ➢ Single contact view

➢ **Optional**
  ➢ Select starting contact
  ➢ Select finishing point

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IETP-X-AT Electric
Functionality & use cases

Preselect Wiring Data

| Applicability | Modifications | External systems |

Filter Wiring Data

| Harness | Electrical Equipment | Wires |

Visualize Wiring Data

| Connection plan | Connection analysis |

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Start
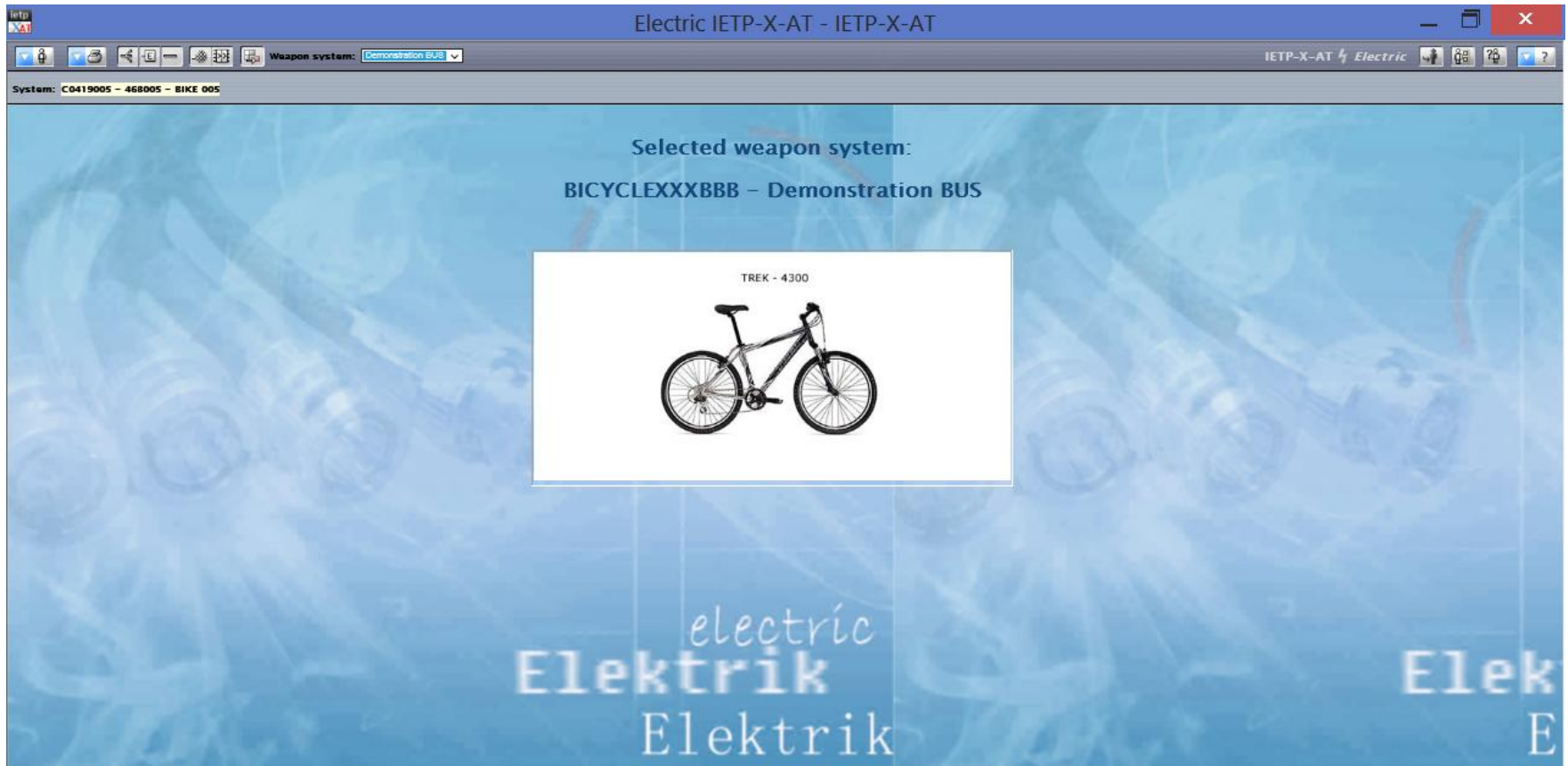
IETP-X-AT Electric

Applicability

Example

Wire list – filter options

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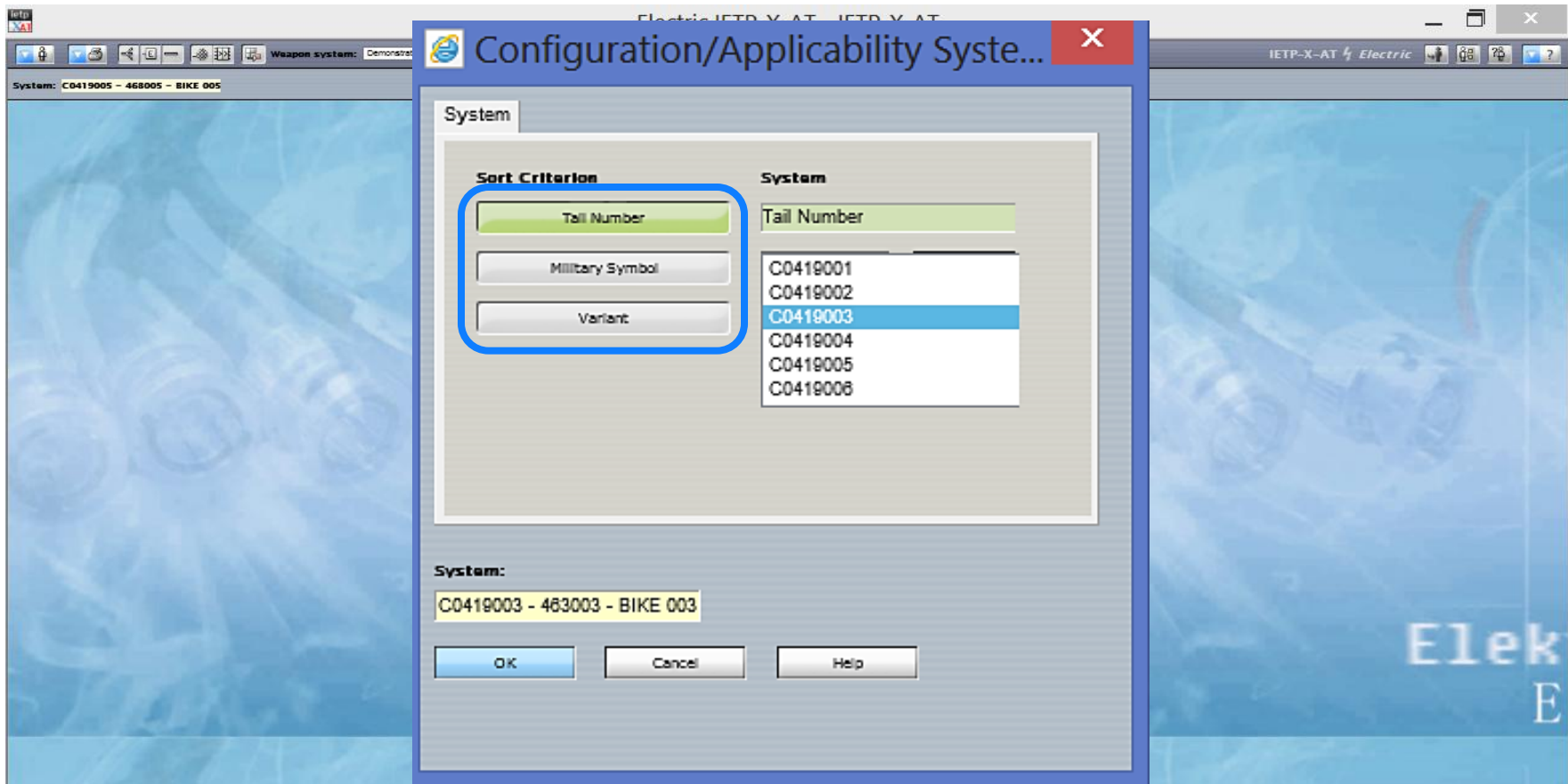
Example

Wire list – filter options

Electric IETP-X-AT - IETP-X-AT

Weapon system: Demonstration BUS

System: C0419006 – 463006 – BIKE 006

List view of Wires - 31 hits found

Search   Export ▾   ? Help

WIRENO	HARNID	RFD	Contact Name	RFD	Contact Name
BA1AA		C_Bike	±	S1	Batt
BA1AB		S1	ON	Rel	3
BA2AA		C_Bike	-	VV1	4 -
BT1AA	Batt_01	Batt	±	C_Batt	±
BT2AA	Batt_01	Batt	-	C_Batt	-
FL1AA	Lampe1	L1	±	VV1	1 ±
FL2AA	Lampe1	L1	-	VV1	1 -
GE1AA		Gen		Rel	2
GE2AA		Gen	GND	VV1	3 -
GE3AA		Gen		Diode	A
GE4AA		Gen	GND	Rel	

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Example
Connection plan

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Example

Connection analysis

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Example

Tool tips

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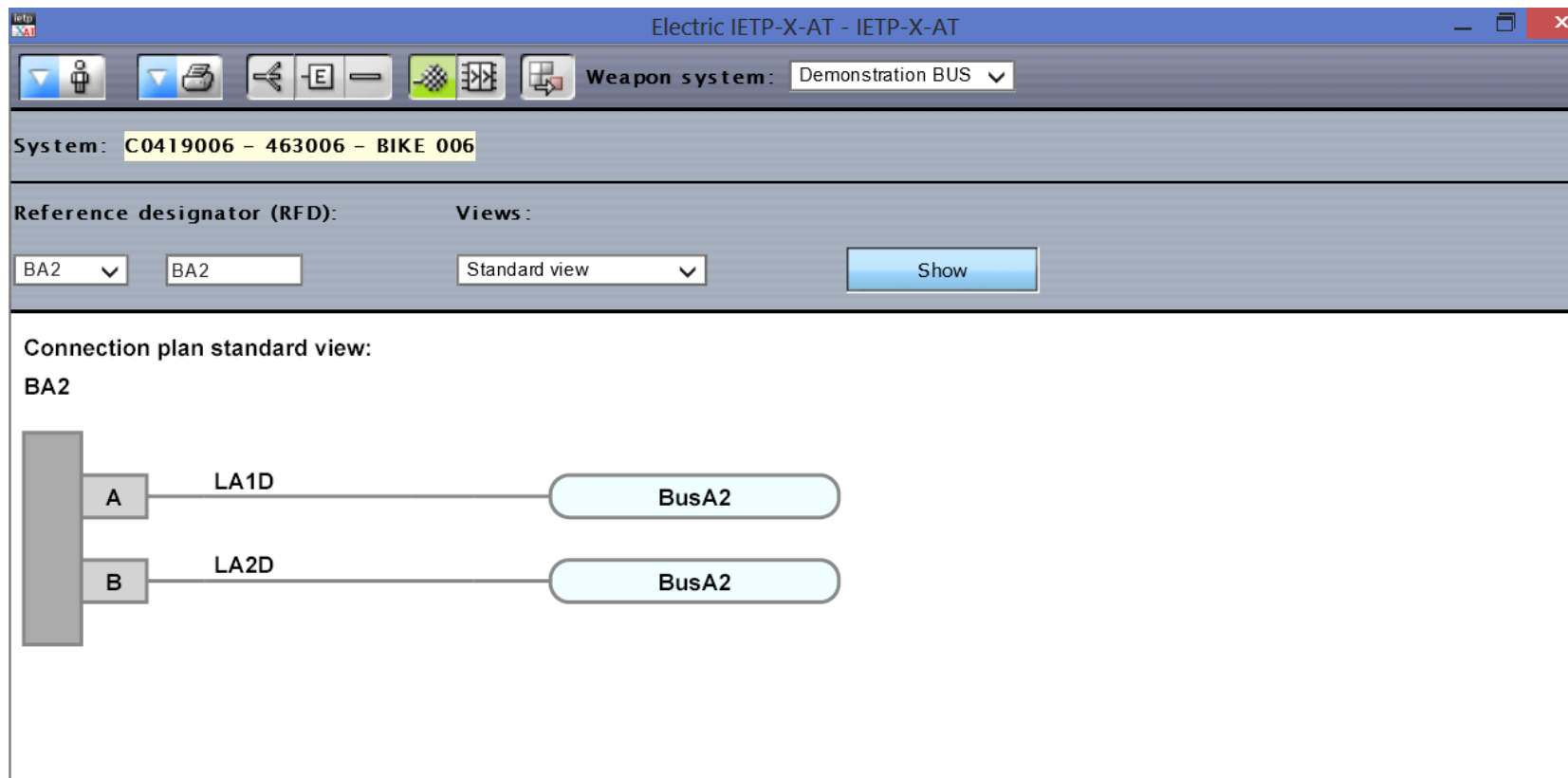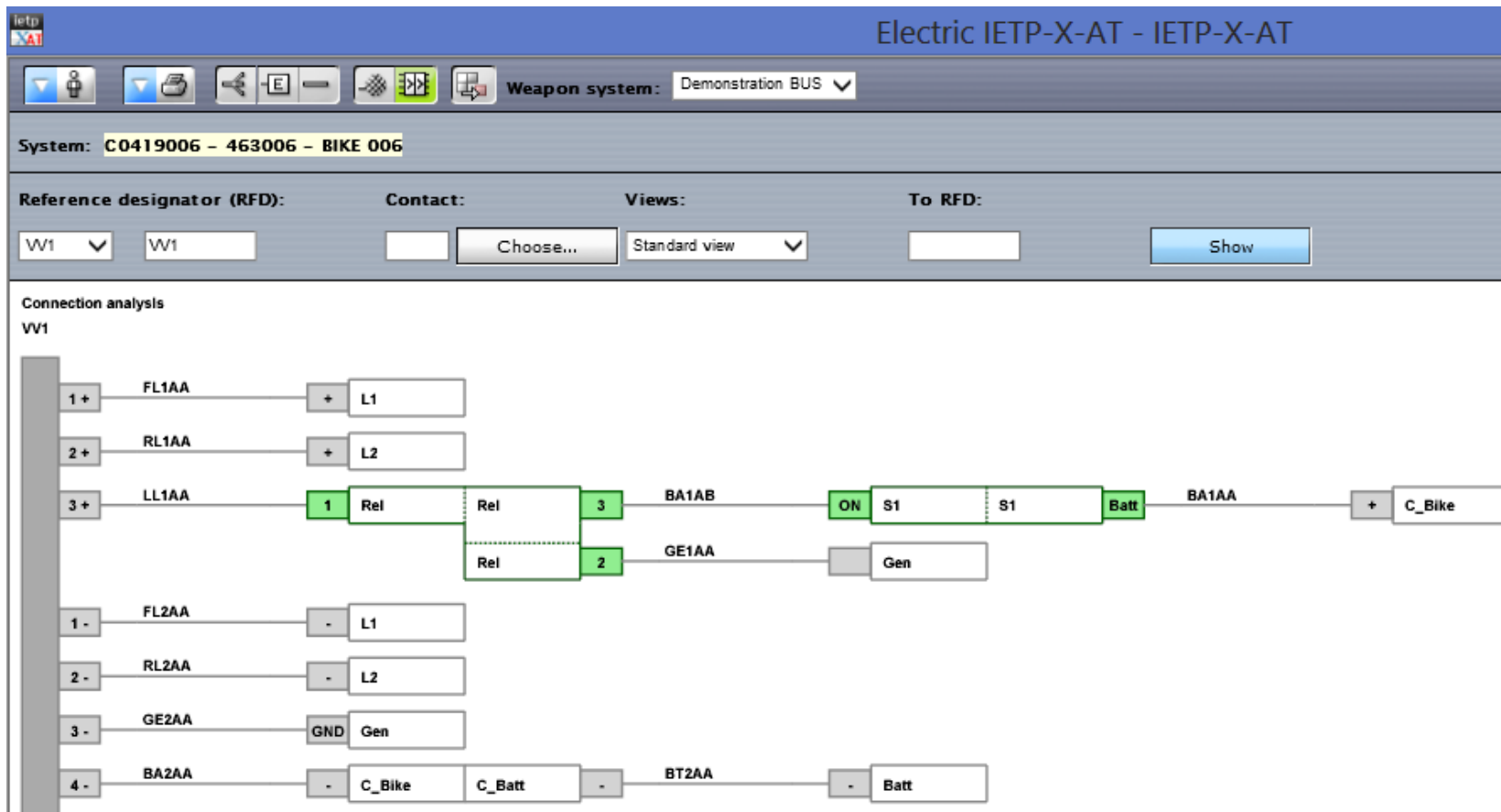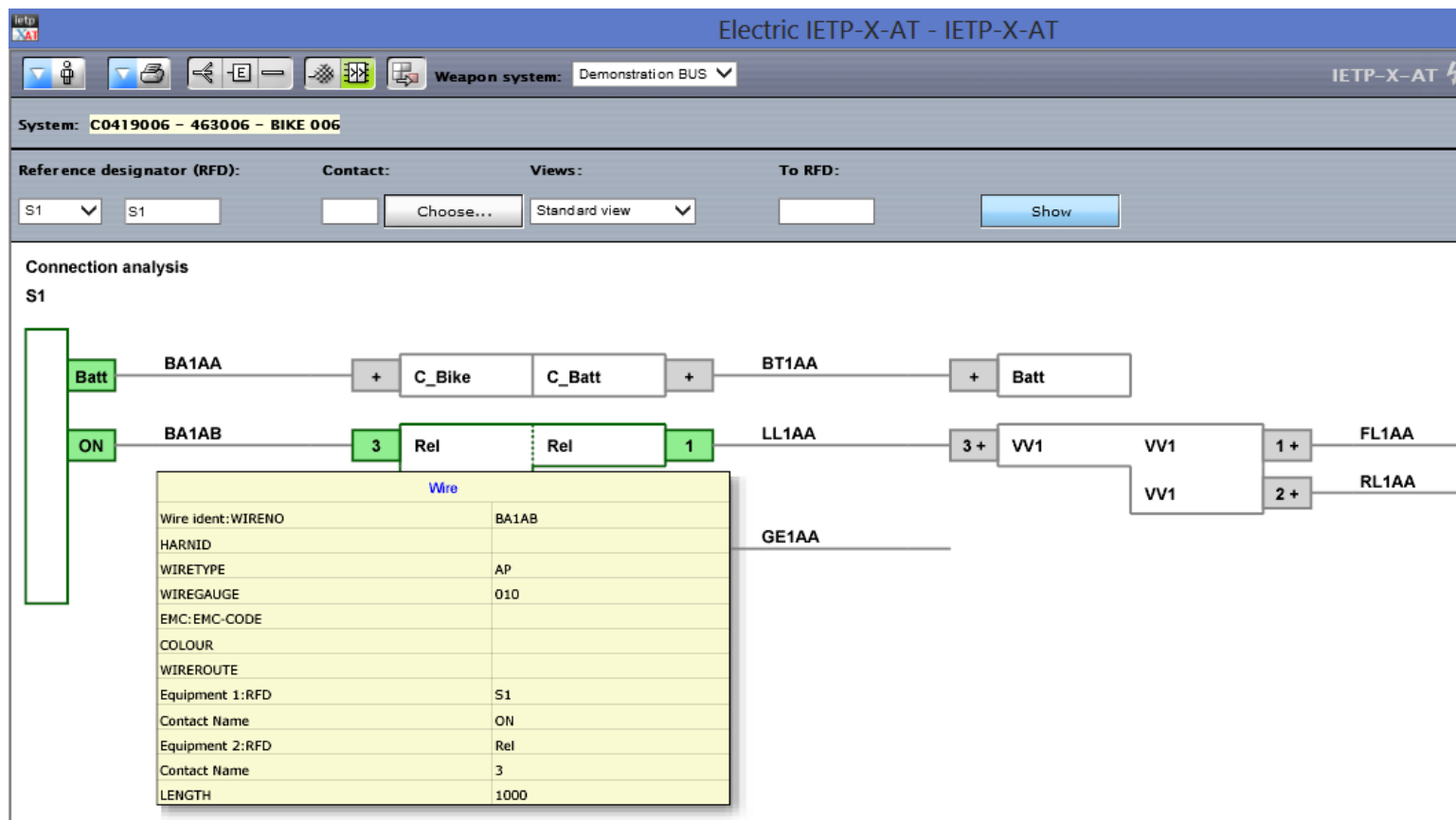
Example

Direct links to corresponding data modules

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Summary

The Baseline

S1000D gives you plenty of possibilities to implement an easy way of displaying and using Wiring Data.

Satisfied customers

German Air Force
- ➤ Eurofighter Typhoon
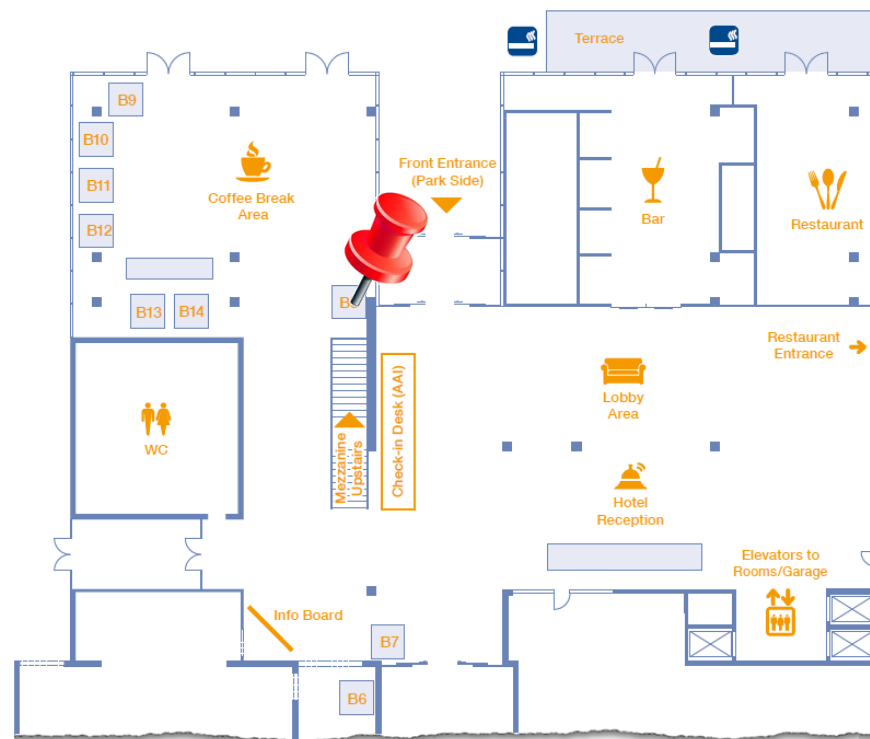- ➤ Tornado

Austrian Air Force
- ➤ Eurofighter Typhoon

Way ahead

Deploy solution to a tablet device

Thank you

for your attention! Looking forward to welcome you at our booth B8 !

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